

In item 16 ( third paragraph on page 7) the examiner also states that Duveneck teaches first and second waveguides separated by a coupling layer referring to column 7, lines 11-16 of Duveneck. Unfortunately, we are unable to find a basis for such a statement. In column 7, lines 11-16 Duveneck merely suggests that any substrate (or a support plate) can be used provided that the layer in direct contact with the waveguiding layer is made of lower refractive index material. The reason for this lies in the fundamentals of optical waveguides. Indeed, to maintain the optical confinement of the waveguide mode i.e. to prevent optical loss from the waveguide into a higher refractive index substrate, there should be a lower refractive index separation layer (in industry this layer is also called buffer layer) located between the waveguide and the substrate. It is unclear how the examiner interpreted the above fundamentals to conclude that Duveneck teaches a second waveguide located beneath the first waveguide.

Regarding item 17 and in light of the above arguments, thin film light sources and detectors were not known in prior art as applied to monolithically integrated biochips.

Regarding item 18, the difference between the resonant cavity taught by Little et al and the microcavity of the present invention has already been addressed in our response dated 7 July 2008.

Regarding item 19, it should be noted that McFarland teaches method and apparatus for depositing array of materials in predefined regions while controlling their chemical composition, concentration, stoichiometry and/or thickness (paragraph 0011 of McFarland). There is no suggestion by McFarland that the electrodes employed for the purposes of the electro-chemical deposition of various materials can also be used to control *hybridization*, defined in the present specification (paragraphs 0005 and 0034), as reaction between an array of the probe molecules already present on the surface and the biological substance under test.

Claims 7, 8 and 14 can be easily amended to take into account examiner's objections and suggestions contained in items 5-10 of the office action.

Please do not hesitate to contact the undersigned if further information/action is required.

Sincerely,



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